

PATENT CLAIMS

1. Motor vehicle door with a door body comprising a door outer shell and a door inner shell between which a door shaft is formed with a window lifter for lifting and lowering a window pane,

characterised by

10 at least one component (4-9) which is mounted inside the door shaft (10) and which produces a transverse connection between the window pane (2) or the window lifter (3) and at least one door shell (11, 12).

15 2. Motor vehicle door according to claim 1, **characterised in that** at least one component (4, 5) is connected to a door shell (11, 12) and is supported spring elastically on the window pane (2) or the window lifter (3).

20 3. Motor vehicle door according to claim 2, **characterised by** a component (4-9) which changes its position with the movement of the window pane (2) or the window lifter (3) and which with a predetermined position of the window pane (2) or window lifter (3) connects positively with the door shell (11, 12).

25 4. Motor vehicle door according to claim 3, **characterised in that** the component (4) bears with pretension against the window pane (2) or the window lifter (3) and during lifting of the window pane (2) or window lifter (3) swivels out from the door shaft (10) by means of a follower or support (21) mounted on the window pane (2) or window lifter (3) into a force-transferring position with a door shell (11, 12).

30 5. Motor vehicle door according to claim 4, **characterised in that** the component part (4) has a length-variable swivel arm (41) and a bridging arm (42) connected to the swivel arm (41), of which one end (422) bears through a

slide member against the window pane (2) or the window lifter (3) and whose other end (421) for connecting with a door shell (11, 12) with a predetermined position of the window pane (2) or window lifter (3) engages in a relieved section (15) of the door shell (11, 12).

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6. Motor vehicle door according to claim 5, **characterised in that** the swivel arm is formed as a telescopic arm (41) and is attached to a door shell (11, 12) as well as is pretensioned through a torsion spring (40) against the window pane (2) or the window lifter (3).
7. Motor vehicle door according to claim 2 or 3, **characterised in that** the component (5) is supported movable substantially at right angles to the window pane (2) or to the window lifter (3) and is supported spring elastically against the window pane (2) or the window lifter (3).
8. Motor vehicle door according to claim 7, **characterised in that** the component (5) in the fully raised position of the window pane (2) or the window lifter (3) bears against a follower or support (21) connected to the window pane (2) or window lifter (3).
- 25 9. Motor vehicle door according to at least one of the preceding claims, **characterised in that** the component (5) is connected to a windscreen wiper or wash device.
- 30 10. Motor vehicle door according to claim 1, **characterised in that** the component (6, 7, 8, 9) is connected to the window pane (2) or to the window lifter (3) and with a predeterminable position of the window pane (2) or window lifter (3), preferably in the upper end position of the window pane (2) or the window lifter (3) produces at least a force locking engagement between the door shells (11, 12).

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11. Motor vehicle door according to claim 10, **characterised in that** the component (6) has connecting arms (61, 62) associated with the door shells (11, 12) whose contour substantially coincides with the contour (111, 121,) of the door shells (11, 12) in the engagement region of the component (6) with the door shells (11, 12).
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12. Motor vehicle door according to claim 11, **characterised in that** the component (6) extends at least over the region of the door lock and/or the parts connected to the door lock such as rod linkage, Bowden cable and the like.
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13. Motor vehicle door according to claim 11, **characterised in that** the contour at least of the connecting arm (61) directed to the door outer shell (11) includes a water drainage channel (63).
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14. Motor vehicle door according to claim 10, **characterised in that** the component (7, 8, 9) consists of securing elements (71, 72, 81, 82, 91, 92, 91', 92') connected to the door shells (11, 12) and of a connecting element (70, 80, 90) connected to the window pane (2) or window lifter (3), which in a predetermined position of the window pane (2) or window lifter (3) preferably in the upper end position of the window pane (2) or window lifter (3) is connected at least with force locking connection to the securing elements (71, 72; 81, 82, 91, 92, 91', 92').
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15. Motor vehicle door according to claim 14, **characterised in that** the securing elements (71, 72, 81, 82, 91, 92, 91', 92') are riveted or welded to the door shells (11, 12) or are part of an extruded pressed profile of the door shells (11, 12).
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16. Motor vehicle door according to claim 14, **characterised in that** the connecting element (70, 80, 90) is fixed on the lower edge (20) of the window pane (2) or on a lower edge of the window lifter (3).

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17. Motor vehicle door according to at least one of the preceding claims 14 to 16, **characterised in that** the securing elements (71, 72) are connected to the connecting element (70) through securing bolts (73, 74).

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18. Motor vehicle door according to one of the preceding claims 14 to 16, **characterised in that** the securing elements (81, 82; 91, 92) are punctured or slit in the connection region with the connecting element (80, 90) and that the connecting element (80, 90) engages in the securing elements (81, 82, 91, 92) by engagement sections (801, 902, 901, 902) aligned with the holes or slits (810, 820, 910, 920) of the securing elements (81, 82; 91, 92) in the predetermined position of the window pane (2) or window lifter (3).

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19. Motor vehicle door according to claim 14, **characterised in that** the securing elements (91', 92') in the engagement region with the connecting element (90') make a force-transferring connection with the connecting element (90') at least in the Y-direction of the motor vehicle.

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20. Motor vehicle door according to one of the preceding claims 14 to 19, **characterised in that** the securing elements (91, 92) and the connecting element (90) produce a positive locking engagement in the manner of a toothed connection.

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21. Motor vehicle door according to at least one of the preceding claims, **characterised in that** the connecting element (90) has connecting arms (901, 902) with a box profile (903, 904) running parallel to the lower edge (20) of the window pane.

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22. Motor vehicle door according to at least one of the preceding claims,
characterised in that the component part (4-9) is designed as a force-
5 transferring component and/or a component covering the door gap.

23. Motor vehicle door according to at least one of the preceding claims,
characterised in that the predetermined position of the window pane (2) or
10 window lifter (3) for producing a positive locking and/or force locking
connection between the window pane (2) or window lifter (3) and the door
shells (11, 12) or directly between the door shells (11, 12) is the uppermost
position of the window pane (2) or window lifter (3) in which the window pane
(2) closes a door cut out section of the vehicle door (1).